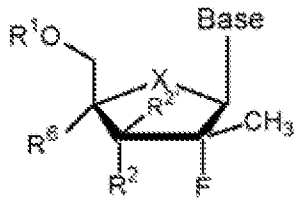
Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) of the formula:



wherein

Base is a ~~purine or~~ pyrimidine base;

X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;

R^1 and $R^{3'}$ are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate; R^1 and R^2 or $R^{3'}$ can also be linked with cyclic phosphate group;

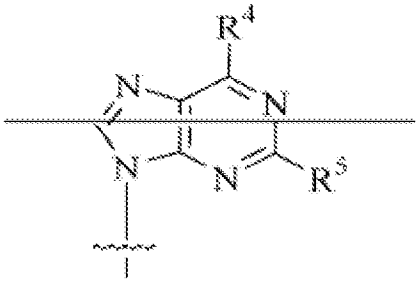
R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$

alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-16} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are ~~optinally~~ optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, OR^7; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2; and

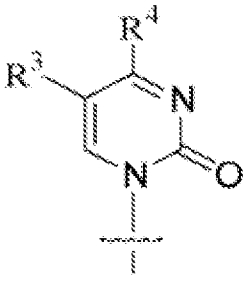
R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;

or its pharmaceutically acceptable salt or prodrug thereof.

Claim 2 (Currently Amended): The (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of claim 1 or its pharmaceutically acceptable salt or prodrug thereof, wherein the Base is represented by the following formula ~~selected from the group consisting of:~~



~~(a)~~



~~(b)~~

wherein

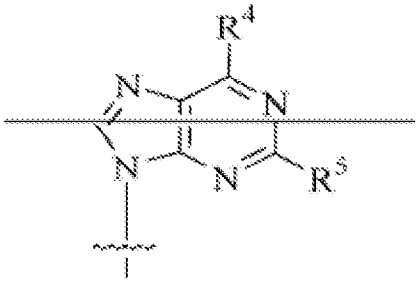
~~Y is N or CH.~~

R^3[[,]] and R^4 ~~and R^5~~ are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, ~~such as CF_3 and CH_2CH_2F,~~ lower alkenyl of C_2-C_6, ~~such as $CH=CH_2$,~~ halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, ~~such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$,~~ lower alkynyl of C_2-C_6, ~~such as $C\equiv CH$,~~ halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, ~~such as CH_2OH and CH_2CH_2OH,~~ halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, lower hydroxyalkyl, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,

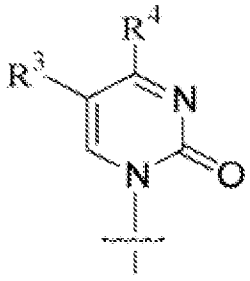
R' is an optionally substituted alkyl of C_1-C_{12}, ~~(particularly when the alkyl is an amino acid residue),~~ cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, or, in the case of NHR' and COR', R' can be an amino acid residue.

Claim 3 (Currently Amended): The (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) of claim 1 or its pharmaceutically acceptable salt or prodrug thereof,

wherein the Base is represented by the following formula ~~selected from the group consisting of (a) or (b):~~



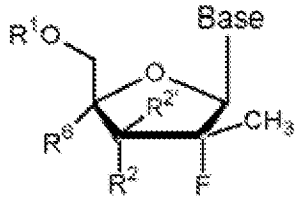
~~(a)~~



~~(b)~~

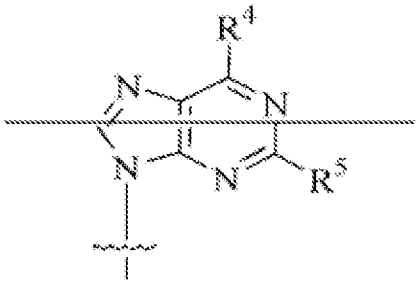
and wherein R^1 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, and R^4 is NH_2 or OH~~,~~ ~~and R^5 is NH_2.~~

Claim 4 (Currently Amended): A (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:

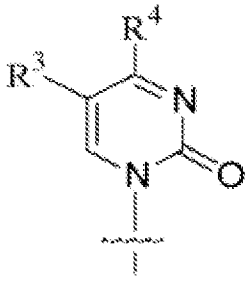


wherein

the Base is represented by the following formula ~~selected from the group consisting of~~



~~(a)~~



~~(b)~~

~~Y is N or CH;~~

R^1 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-

phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate; R^1 and R^2 or R^7 can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are ~~optinally~~ optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^7; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3[[,]] and R^4 and ~~R^5~~ are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, ~~such as CF_3 and CH_2CH_2F,~~ lower alkenyl of C_2-C_6, ~~such as $CH=CH_2$,~~ halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, ~~such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$,~~ lower alkynyl of C_2-C_6, ~~such as $C\equiv CH$,~~ halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 ~~such as CH_2OH and CH_2CH_2OH,~~ halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, lower hydroxyalkyl, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;

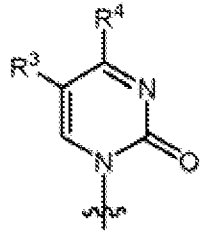
R' is an optionally substituted alkyl of C_1-C_{12} ~~(particularly when the alkyl is an amino acid residue),~~ cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl or, in the case of NHR' and COR', R' can be an amino acid residue;

R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;

or its pharmaceutically acceptable salt or prodrug thereof.

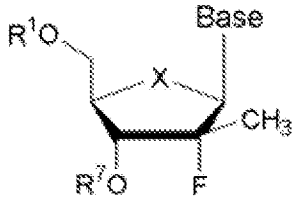
Claim 5 (Currently Amended): The (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D) of claim 4 or its pharmaceutically acceptable salt or prodrug thereof, wherein

the Base is represented by the following formula



and R^1 is H, R^2 is OH, R^2 is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.

Claim 6 (Currently Amended): A (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof of the structure:



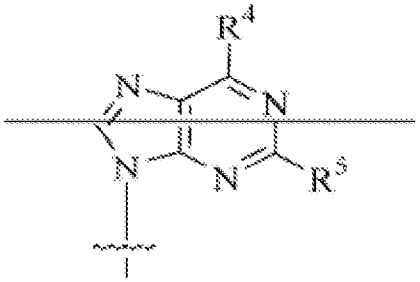
wherein the Base is a ~~purine or~~ pyrimidine base;

X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I; and,

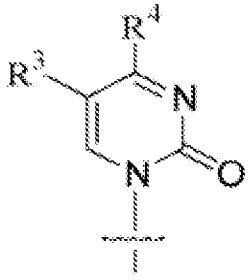
R^1 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^7 is independently H or phosphate; R^1 and R^7 can also be linked with cyclic phosphate group.

Claim 7 (Currently Amended): The (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of claim 6 or its pharmaceutically acceptable salt or prodrug thereof,

wherein the Base is represented by the following formula ~~selected from the group consisting of~~:



~~(a)~~



~~(b)~~

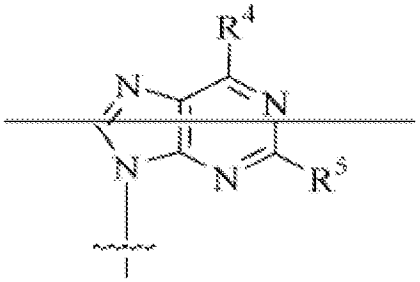
~~Y is N or CH;~~

R^3[[,]] and R^4 ~~and R^5~~ are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, ~~such as CF_3 and CH_2CH_2F,~~ lower alkenyl of C_2-C_6, ~~such as $CH=CH_2$,~~ halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, ~~such as CH=CHCl, CH=CHBr and CH=CHI,~~ lower alkynyl of C_2-C_6, ~~such as $C\equiv CH$,~~ halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, ~~such as CH_3OH and CH_2CH_2OH,~~ halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, lower hydroxyalkyl, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,

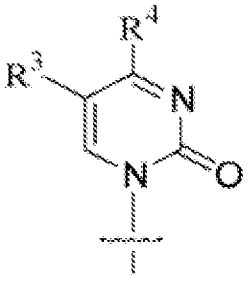
R' is an optionally substituted alkyl of C_1-C_{12} ~~(particularly when the alkyl is an amino acid residue),~~ cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl or, in the case of NHR' and COR', R' can be an amino acid residue.

Claim 8 (Currently Amended): The (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) of claim 6 or its pharmaceutically acceptable salt or prodrug thereof,

wherein the Base is represented by the following formula ~~selected from the group consisting of (a) or (b):~~



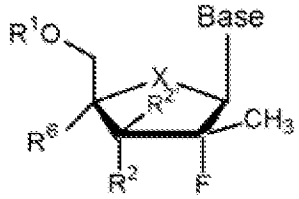
~~(a)~~



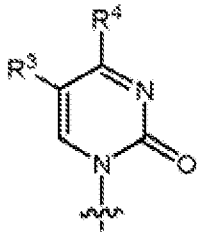
~~(b)~~

and wherein R^1 and R^7 are H, R^3 is H, and R^4 is NH_2 or OH, ~~and R^5 is NH_2.~~

Claim 9 (Currently Amended): A (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:



wherein the Base is



X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;

R^1 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and

benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate; R^1 and R^2 or R^7 can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-18} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are ~~optinally~~ optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, OR^7; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, ~~such as CF_3 and CH_2CH_2F,~~ lower alkenyl of C_2-C_6, ~~such as $CH=CH_2$,~~ halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, ~~such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$,~~ lower alkynyl of C_2-C_6, ~~such as~~

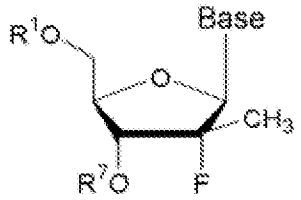
~~C≡CH~~, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 ~~such as CH_2OH and CH_2CH_2OH~~, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH{=}CHCO_2H$, $CH{=}CHCO_2R'$; and,

R' is an optionally substituted alkyl of C_1-C_{12}, ~~(particularly when the alkyl is an amino acid residue)~~, cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl or, in the case of NHR' and COR', R' can be an amino acid residue;

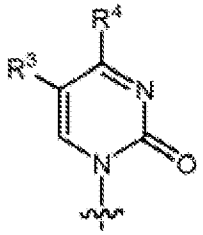
R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH3)_2$, alkyne (optionally substituted), or fluoro;

or its pharmaceutically acceptable salt or prodrug thereof.

Claim 10 (Currently Amended): A (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula



wherein the Base is



R^1 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-

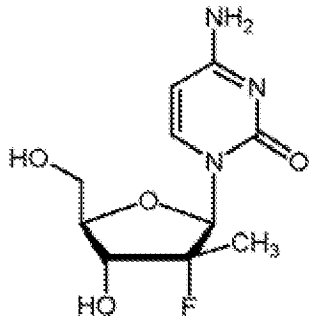
phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate; R^1 and R^2 or R^7 can also be linked with cyclic phosphate group;

R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 ~~such as CF_3 and CH_2CH_2F~~, lower alkenyl of C_2-C_6 ~~such as $CH=CH_2$~~, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 ~~such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$~~, lower alkynyl of C_2-C_6 ~~such as $C\equiv CH$~~, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 ~~such as CH_2OH and CH_2CH_2OH~~, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, lower hydroxyalkyl, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;

R' is an optionally substituted alkyl of C_1-C_{12} ~~(particularly when the alkyl is an amino acid residue)~~, cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl or, in the case of NHR' and COR', R' can be an amino acid residue;

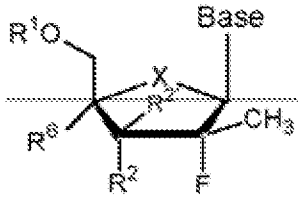
or its pharmaceutically acceptable salt or prodrug thereof.

Claim 11 (Original): A (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof of the formula:



Claims 12-15 (Canceled).

Claim 16 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 1 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier, ~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid,~~

~~including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^4 is H or phosphate; R^3 is H or phosphate; R^3 and R^3 or R^7 can also be linked with cyclic phosphate group;~~

~~R^3 and $R^{3'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^7; R^3 and $R^{3'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, a pharmaceutically acceptable carrier.~~

Claim 17 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 2 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~The composition of claim 16, wherein Base is selected from the group consisting of:~~

~~(a) (b)~~

~~wherein~~

~~Y is N or CH.~~

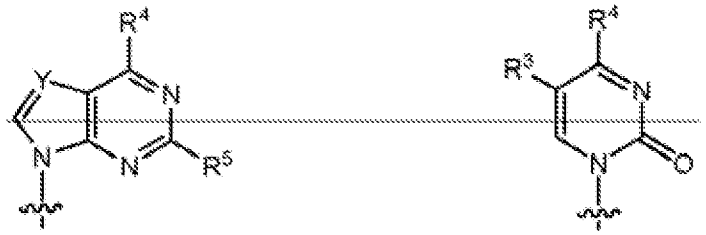
~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$, and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 18 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 3 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~The composition of claim 16, wherein~~

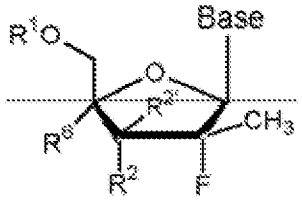
~~Base is selected from the group consisting of (a) or (b):~~



~~(a) (b)~~

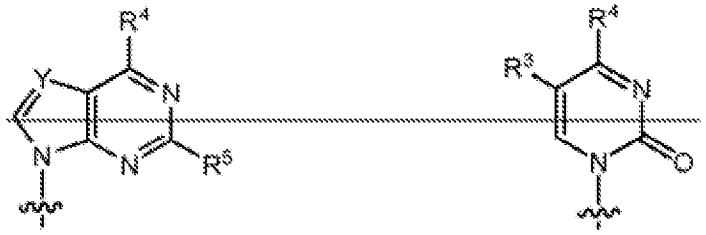
~~and wherein R^1 is H, R^3 is OH, R^{2a} is H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

Claim 19 (Currently Amended). A pharmaceutical composition comprising the nucleoside of claim 4 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier. ~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is selected from the group consisting of~~



~~(a) (b)~~

~~Y is N or CH;~~

R^1 and R^3 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^2 is H or phosphate, R^1 and R^2 or R^2 can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-10}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$,

~~$N(C_{1-4}$ acyl)$_2$, OR^2; R^2 and R^{2a} can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR^2, SH, SR^2, NH_2, NHR^2, NR^2_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R^2, $CONH_2$, $CONHR^2$, $CONR^2_2$, $CH=CHCO_2H$, $CH=CHCO_2R^2$;~~

~~R^2 is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

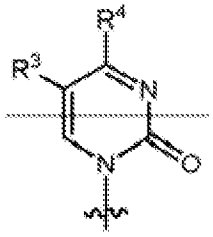
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), $CHCN$, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof in a pharmaceutically acceptable carrier.~~

Claim 20 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 5 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~The composition of claim 19, wherein~~

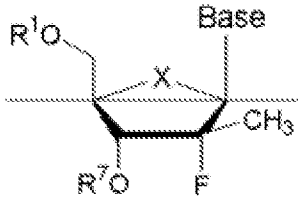
~~Base is~~



~~and R^1 is H, R^2 is OH, R^{2a} is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.~~

Claim 21 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 6 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~A pharmaceutical composition comprising a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof, in a pharmaceutically acceptable carrier, of the structure:~~



~~wherein Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I, and;~~

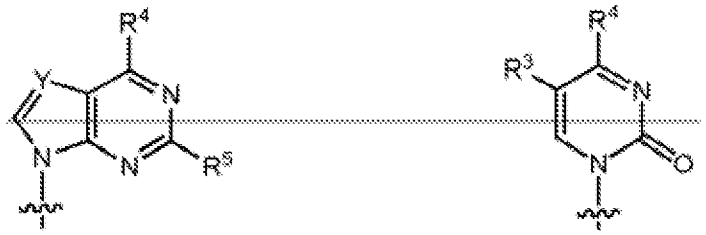
~~R^3 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide,~~

~~a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^3 or R^2 is independently H or phosphate; R^3 and R^2 can also be linked with cyclic phosphate group.~~

Claim 22 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 7 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~The composition of claim 21, wherein~~

~~Base is selected from the group consisting of:~~



~~(a) (b)~~

~~Y is N or CH;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$, and,~~

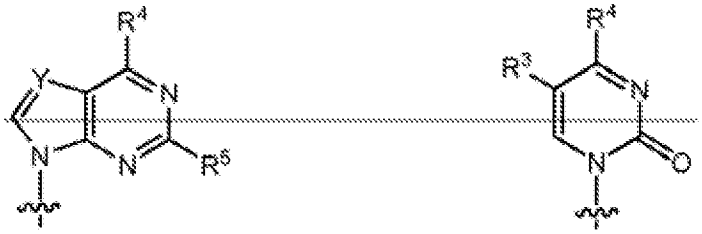
~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6;~~

~~optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 23 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 8 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~The composition of claim 21, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

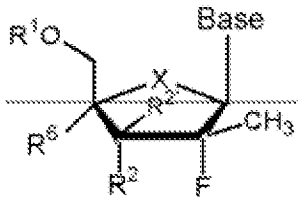


~~(a) (b)~~

~~and wherein R^1 and R^2 are H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

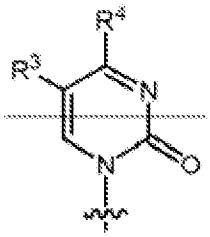
Claim 24 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 9 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~A pharmaceutical composition comprising a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^3 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^4 is H or phosphate, R^3 is H or phosphate, R^4 and R^3 or R^2 can also be linked with cyclic phosphate group;~~

~~R^3 and R^2 are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl),~~

~~$O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

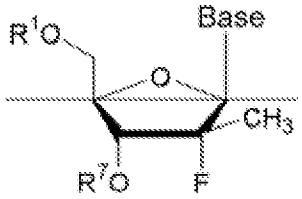
~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl; and~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), $CHCN$, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof and a pharmaceutically acceptable carrier.~~

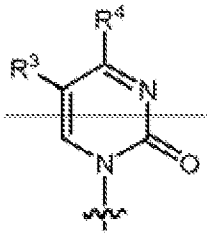
Claim 25 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 10 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

~~A pharmaceutical composition comprising a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group;~~

~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_8, halogenated (F, Cl, Br, I) lower~~

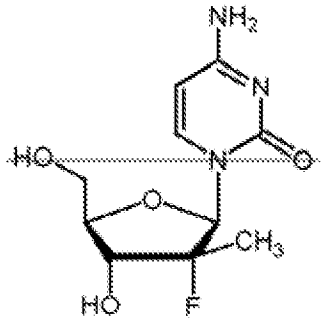
~~alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R^1, $CONH_2$, $CONHR^1$, $CONR^1_2$, $CH=CHCO_2H$, $CH=CHCO_2R^1$;~~

~~R^1 is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, in a pharmaceutically acceptable carrier.~~

Claim 26 (Currently Amended): A pharmaceutical composition comprising the nucleoside of claim 11 or its pharmaceutically acceptable salt or prodrug and a pharmaceutically acceptable carrier.

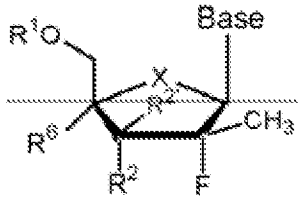
~~A pharmaceutical composition comprising a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof, in a pharmaceutically acceptable carrier of the formula:~~



Claims 27-30 (Canceled).

Claim 31 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 1 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^1 and R^3 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^3 is H or phosphate, R^1 and R^2 or R^3 can also be linked with cyclic phosphate group;~~

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^7; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

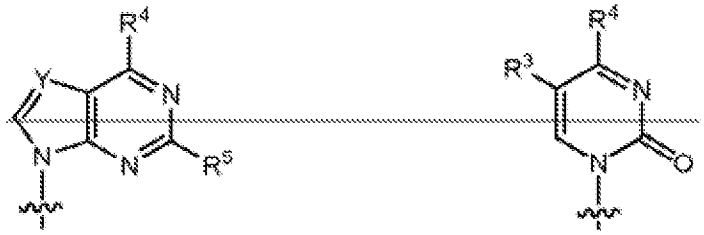
R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;

or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.

Claim 32 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 2 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 31,~~

~~wherein Base is selected from the group consisting of~~



~~(a) (b)~~

~~Y is N or CH.~~

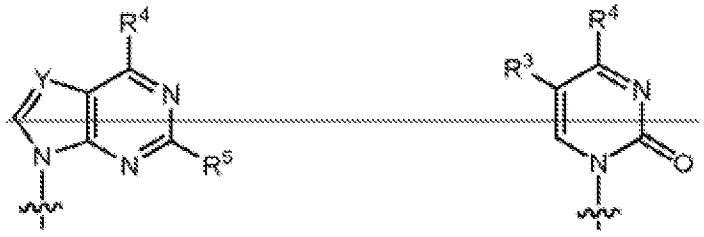
~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 33 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 3 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 31, wherein~~

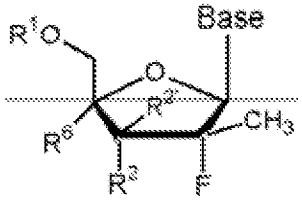
~~Base is selected from the group consisting of (a) or (b):~~



~~(a)~~ ~~(b)~~

~~and wherein R^4 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

Claim 34 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 4 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier, ~~a (2'R)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is selected from the group consisting of~~

(a) (b)

Y is N or CH;

R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^2 is H or phosphate, R^1 and R^2 or R^2 can also be linked with cyclic phosphate group;

R^3 and $R^{3'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-16}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl),

~~$C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

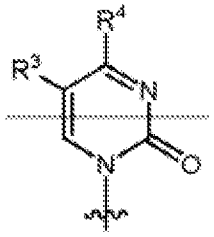
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 35 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 5 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 34, wherein~~

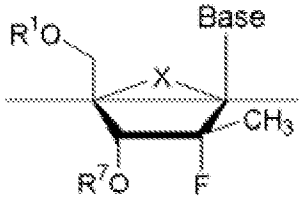
~~Base is~~



~~and R^1 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.~~

Claim 36 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 6 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof of the structure:~~



~~wherein Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I; and,~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group;~~

~~optionally, in a pharmaceutically acceptable carrier.~~

Claim 37 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 7 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 36, wherein~~

~~Base is selected from the group consisting of:~~

~~(a) (b)~~

~~Y is N or CH;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I)~~

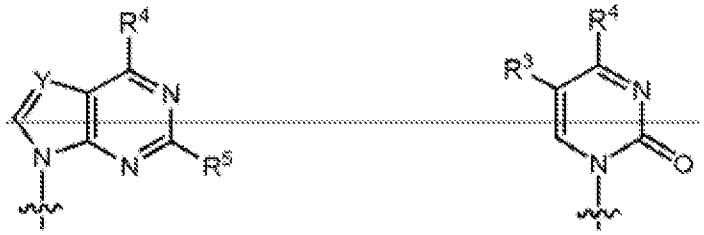
~~lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 38 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 8 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 36, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

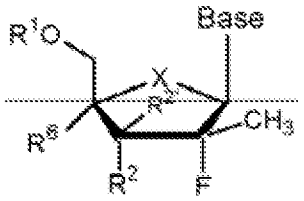


~~(a) (b)~~

~~and wherein R^3 and R^5 are H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

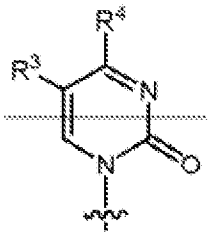
Claim 39 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 9 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^3 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of~~

providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate, R^1 and R^2 or R^2 can also be linked with cyclic phosphate group;

$R^{2'}$ and $R^{2''}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, OR^2; $R^{2'}$ and $R^{2''}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR^2, SH, SR^2, NH_2, NHR^2, NR^2_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R^2, $CONH_2$, $CONHR^2$, $CONR^2_2$, $CH=CHCO_2H$, $CH=CHCO_2R^2$,

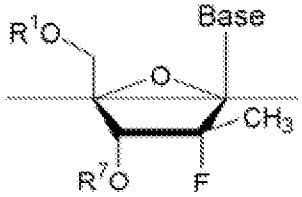
~~R^5 is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl; and,~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier~~

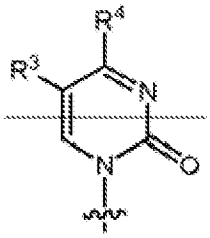
Claim 40 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 10 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~R^5 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^5 and R^7 can also be linked with cyclic phosphate group;~~

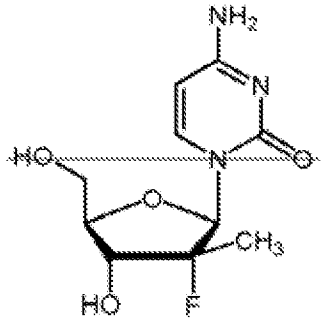
~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier~~

Claim 41 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 11 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

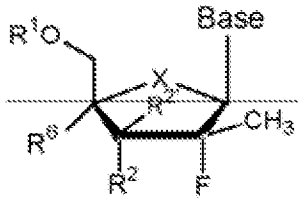
~~A method for the treatment or prophylaxis of hepatitis C infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof of the formula:~~



~~optionally in a pharmaceutically acceptable carrier.~~

Claims 42-45 (Canceled).

Claim 46 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 1 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier. ~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) of the formula:~~



wherein

Base is a purine or pyrimidine base;

X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;

R^1 and R^3 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^3 is H or phosphate, R^1 and R^3 or R^2 can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one

~~to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; R^3 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 47 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 2 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 46,~~

~~wherein Base is selected from the group consisting of:~~

~~(a)~~ ~~(b)~~

~~Y is N or CH.~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$, and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_3-C_6, or optionally substituted acyl.~~

Claim 48 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 3 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 46, wherein~~

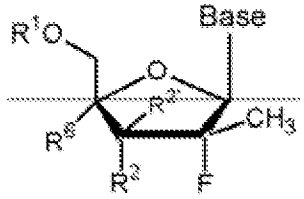
~~Base is selected from the group consisting of (a) or (b):~~

~~(a) (b)~~

~~and wherein R^1 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

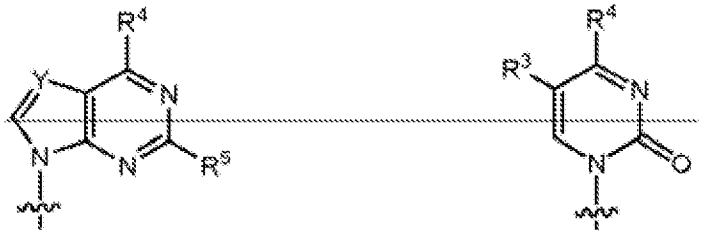
Claim 49 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 4 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) of the formula~~



~~wherein~~

~~Base is selected from the group consisting of~~



~~(a) (b)~~

~~Y is N or CH;~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and~~

benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^4 is H or phosphate, R^3 is H or phosphate, R^4 and R^3 or R^2 can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-18} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4}alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, OR^3, R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as CH=CH_2, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as

~~$C{\equiv}CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH{=}CHCO_2H$, $CH{=}CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

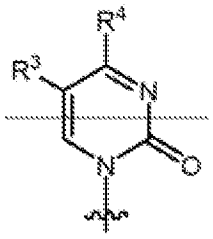
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), $CHCN$, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 50 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 5 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 49, wherein~~

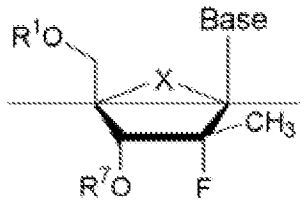
~~Base is~~



~~and R^3 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.~~

Claim 51 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 6 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof of the structure:~~



~~wherein Base is a purine or pyrimidine base;~~

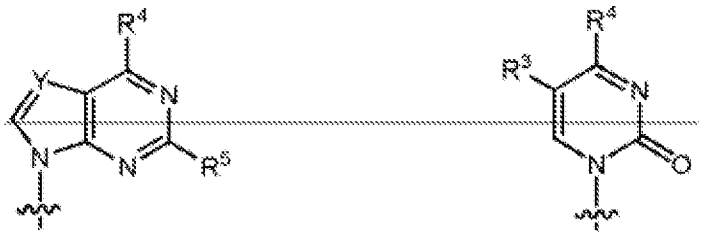
~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I, and;~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group and optionally a pharmaceutically acceptable carrier.~~

Claim 52 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 7 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 51, wherein~~

~~Base is selected from the group consisting of:~~



~~(a) (b)~~

~~Y is N or CH;~~

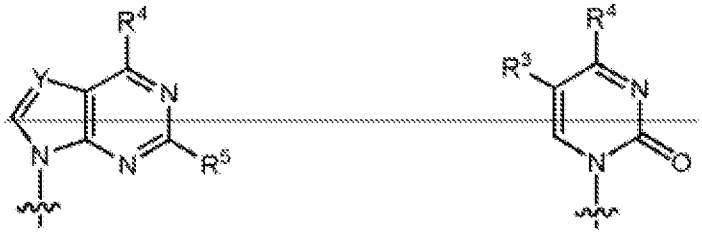
~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 53 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 8 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 51, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

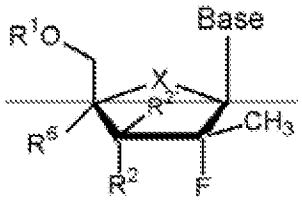


~~(a)~~ ~~(b)~~

~~and wherein R^6 and R^7 are H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

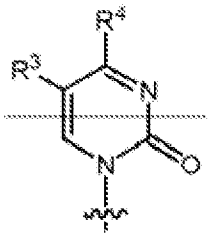
Claim 54 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 9 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^2 is H or phosphate, R^1 and R^3 or R^2 can also be linked with cyclic phosphate group;~~

~~R^3 and R^4 are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl),~~

~~$O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; R^2 and $R^{6'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

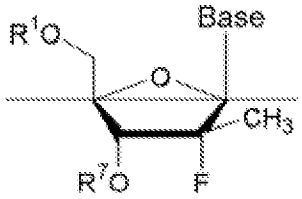
~~$R^{6'}$ is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), $CHCN$, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 55 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the

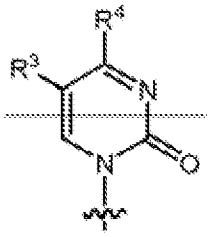
nucleoside of claim 10 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group;~~

~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_8, halogenated (F, Cl, Br, I) lower~~

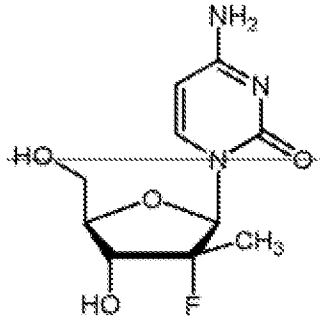
~~alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 56 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 11 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

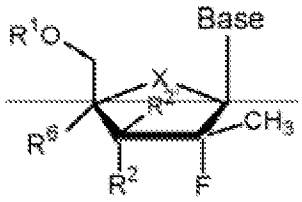
~~A method for the treatment or prophylaxis of a rhinovirus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof of the formula:~~



~~optionally in a pharmaceutically acceptable carrier.~~

Claims 57-60 (Canceled).

Claim 61 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 1 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier ~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula~~



~~wherein~~

~~Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^1 and R^3 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^3 is H or phosphate, R^1 and R^3 or R^3 can also be linked with cyclic phosphate group;~~

~~R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^7; R^3 and $R^{3'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 62 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 2 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 61,~~

~~wherein Base is selected from the group consisting of~~

~~(a) (b)~~

~~Y is N or CH;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 63 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 3 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 61, wherein~~

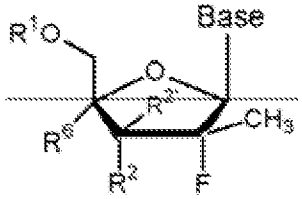
~~Base is selected from the group consisting of (a) or (b):~~

~~(a)~~ ~~(b)~~

~~and wherein R^1 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

Claim 64 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 4 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is selected from the group consisting of~~

(a) (b)

Y is N or CH;

R^3 and $R^{3'}$ are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^3 is H or phosphate, $R^{3'}$ is H or phosphate, R^3 and $R^{3'}$ or $R^{3'}$ can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-16}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl),

~~$C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

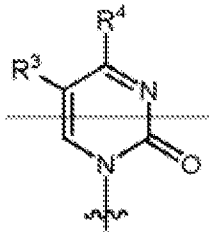
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 65 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 5 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 64, wherein~~

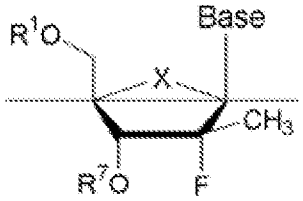
~~Base is~~



~~and R^1 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.~~

Claim 66 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 6 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof of the structure:~~



~~wherein Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I; and,~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group and~~

~~optionally in a pharmaceutically acceptable carrier.~~

Claim 67 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 7 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 66, wherein~~

~~Base is selected from the group consisting of:~~

~~(a) (b)~~

~~Y is N or CH;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I)~~

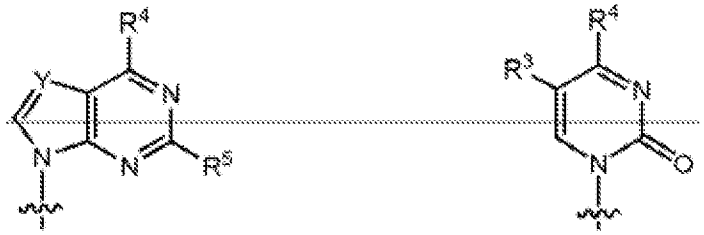
~~lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_3-C_6, or optionally substituted acyl.~~

Claim 68 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 8 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 66, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

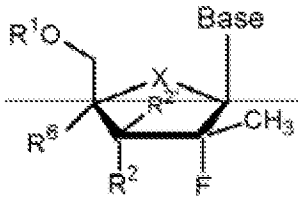


~~(a) (b)~~

~~and wherein R^3 and R^5 are H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

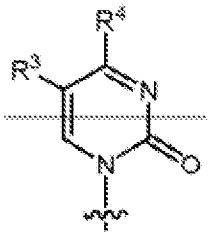
Claim 69 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 9 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^3 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of~~

providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate, R^1 and R^2 or R^2 can also be linked with cyclic phosphate group;

$R^{2'}$ and $R^{2''}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, OR^2; $R^{2'}$ and $R^{2''}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR^2, SH, SR^2, NH_2, NHR^2, NR^2_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R^2, $CONH_2$, $CONHR^2$, $CONR^2_2$, $CH=CHCO_2H$, $CH=CHCO_2R^2$,

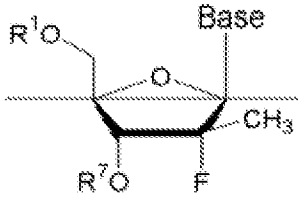
R^1 is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;

R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;

or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.

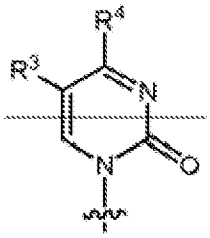
Claim 70 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 10 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:



wherein

Base is



R^5 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^5 and R^7 can also be linked with cyclic phosphate group;

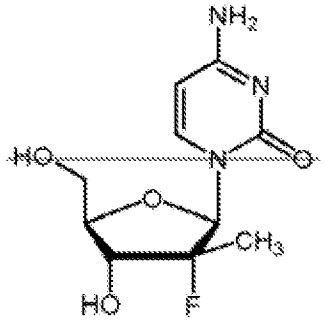
R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;

R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 71 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 11 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a yellow fever virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof of the formula:~~

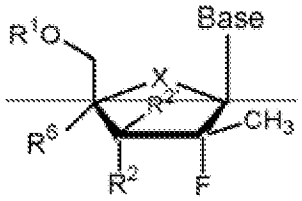


~~optionally in a pharmaceutically acceptable carrier.~~

Claims 72-75 (Canceled).

Claim 76 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 1 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^1 and R^3 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 is H or phosphate, R^2 is H or phosphate, R^1 and R^2 or R^3 can also be linked with cyclic phosphate group;~~

~~R^2 and R^4 are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, wherein~~

~~alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^7; R^3 and $R^{3'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 77 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 2 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 76,~~

~~wherein Base is selected from the group consisting of:~~

~~(a) (b)~~

~~Y is N or CH.~~

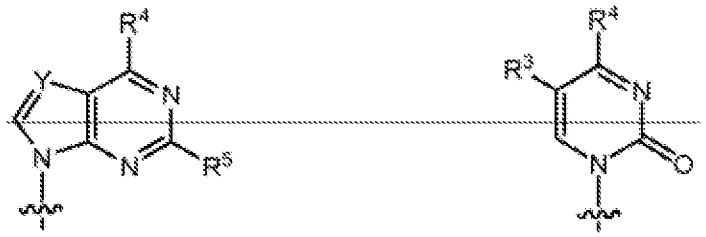
~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$, and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_3-C_6, or optionally substituted acyl.~~

Claim 78 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 3 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 76, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

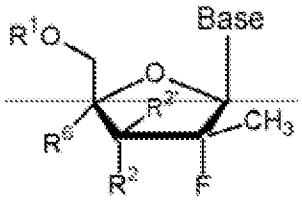


~~(a) (b)~~

and wherein R^1 is H, R^2 is OH, $R^{2'}$ is H, R^4 is H, and R^6 is NH_2 or OH, and R^5 is NH_2.

Claim 79 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 4 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) of the formula:



wherein

Base is selected from the group consisting of

(a) (b)

Y is N or CH;

R^4 and R^3 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and

benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^4 is H or phosphate, R^3 is H or phosphate, R^4 and R^3 or R^2 can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-18} acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4} alkyl), C(O)O(C_{1-4}alkynyl), C(O)O(C_{1-4} alkenyl), O(C_{1-4} acyl), O(C_{1-4} alkyl), O(C_{1-4} alkenyl), S(C_{1-4} acyl), S(C_{1-4} alkyl), S(C_{1-4} alkynyl), S(C_{1-4} alkenyl), SO(C_{1-4} acyl), SO(C_{1-4} alkyl), SO(C_{1-4} alkynyl), SO(C_{1-4} alkenyl), SO_2(C_{1-4} acyl), SO_2(C_{1-4} alkyl), SO_2(C_{1-4} alkynyl), SO_2(C_{1-4} alkenyl), O_3S(C_{1-4} acyl), O_3S(C_{1-4} alkyl), O_3S(C_{1-4} alkenyl), NH_2, NH(C_{1-4} alkyl), NH(C_{1-4} alkenyl), NH(C_{1-4} alkynyl), NH(C_{1-4} acyl), N(C_{1-4} alkyl)$_2$, N(C_{1-4} acyl)$_2$, OR^3; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as CH=CH_2, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as

~~$C{\equiv}CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH{=}CHCO_2H$, $CH{=}CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

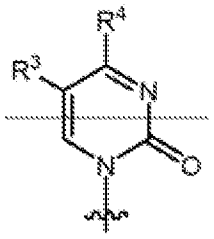
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), $CHCN$, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 80 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 5 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 79, wherein~~

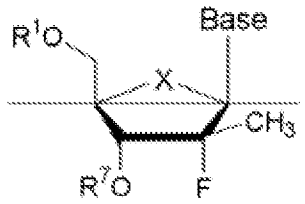
~~Base is~~



~~and R^1 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.~~

Claim 81 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 6 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof of the structure:~~



~~wherein Base is a purine or pyrimidine base;~~

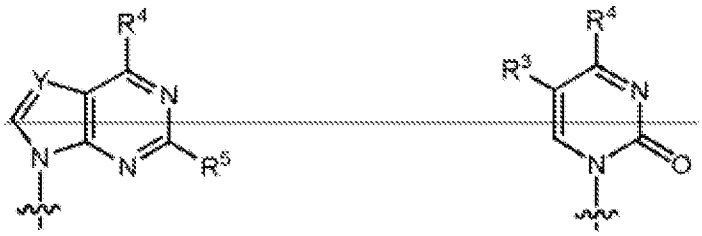
~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I, and;~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group, and optionally a pharmaceutically acceptable carrier.~~

Claim 82 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 7 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 81, wherein~~

~~Base is selected from the group consisting of:~~



~~(a) (b)~~

~~Y is N or CH;~~

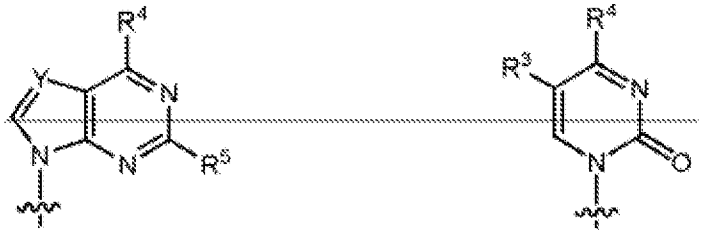
~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 83 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 8 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 81, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

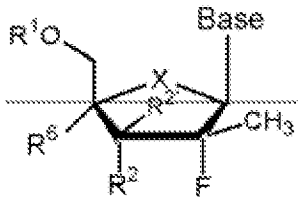


~~(a)~~ ~~(b)~~

~~and wherein R^6 and R^7 are H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

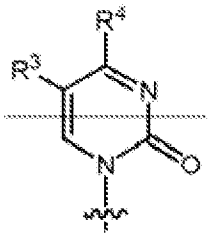
Claim 84 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 9 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^3 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^4 is H or phosphate, R^3 is H or phosphate, R^4 and R^3 or R^2 can also be linked with cyclic phosphate group;~~

~~R^3 and $R^{3'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl$)_2$, $N(C_{1-4}$ acyl$)_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl),~~

~~$C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2, R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

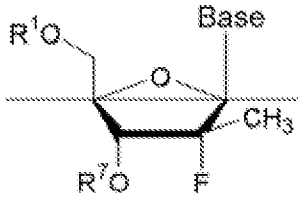
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 85 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount

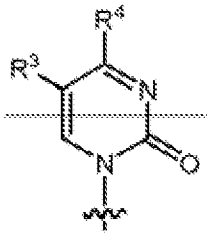
of the nucleoside of claim 10 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:



wherein

Base is



R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group;

R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_8, halogenated (F, Cl, Br, I) lower

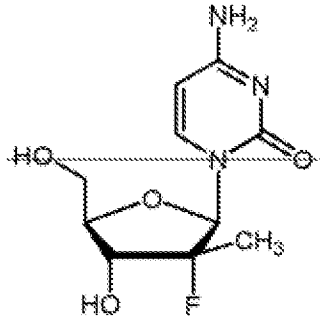
~~alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 86 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 11 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a West Nile virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof of the formula:~~

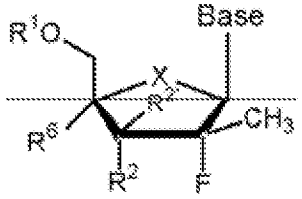


~~optionally in a pharmaceutically acceptable carrier.~~

Claims 87-90 (Canceled).

Claim 91 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 1 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^3 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^3 is H or phosphate, R^2 is H or~~

~~phosphate; R^4 and R^3 or R^2 can also be linked with cyclic phosphate group;~~

~~R^3 and $R^{3'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^3; R^3 and $R^{3'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 92 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of

the nucleoside of claim 2 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 91,~~

~~wherein Base is selected from the group consisting of~~

~~(a)~~ ~~(b)~~

~~Y is N or CH.~~

~~R^2, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$, and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 93 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of

the nucleoside of claim 3 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 91, wherein~~

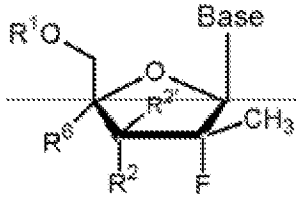
~~Base is selected from the group consisting of (a) or (b):~~

~~(a)~~ ~~(b)~~

~~and wherein R^3 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

Claim 94 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 4 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) of the formula:~~



~~wherein~~

~~Base is selected from the group consisting of~~

(a) (b)

Y is N or CH;

R^3 and $R^{3'}$ are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^4 is H or phosphate, R^3 is H or phosphate, R^4 and R^3 or $R^{3'}$ can also be linked with cyclic phosphate group;

R^2 and $R^{2'}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-16}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl),

~~$C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_2S(C_{1-4}$ acyl), $O_2S(C_{1-4}$ alkyl), $O_2S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; R^2 and $R^{2'}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

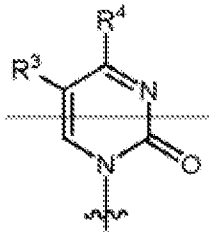
~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 95 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 5 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 94, wherein~~

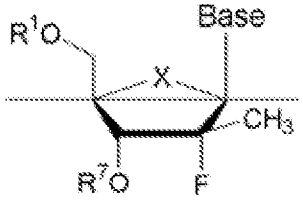
~~Base is~~



~~and R^3 is H, R^2 is OH, $R^{2'}$ is H, R^3 is H, R^4 is NH_2 or OH, and R^6 is H.~~

Claim 96 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 6 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) or its pharmaceutically acceptable salt or prodrug thereof of the structure:~~



~~wherein Base is a purine or pyrimidine base;~~

~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I; and,~~

~~R^1 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^1 and R^2 can also be linked with cyclic phosphate group, and optionally a pharmaceutically acceptable carrier.~~

Claim 97 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 7 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 96, wherein~~

~~Base is selected from the group consisting of:~~

~~(a) (b)~~

~~Y is N or CH;~~

~~R^3, R^4 and R^5 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I)~~

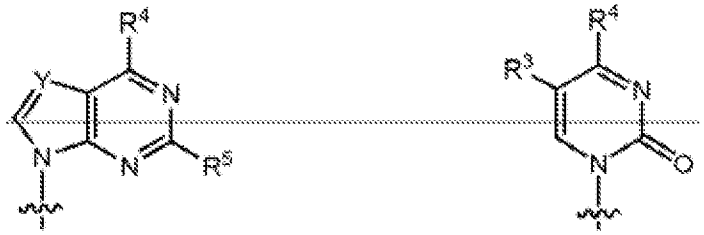
~~lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as $CH=CHCl$, $CH=CHBr$ and $CH=CHI$, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$; and,~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_3-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

Claim 98 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 8 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~The method of claim 96, wherein~~

~~Base is selected from the group consisting of (a) or (b):~~

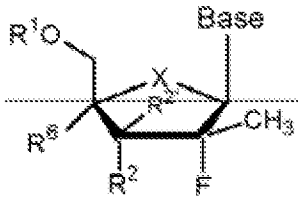


~~(a) (b)~~

~~and wherein R^3 and R^5 are H, R^3 is H, and R^4 is NH_2 or OH, and R^5 is NH_2.~~

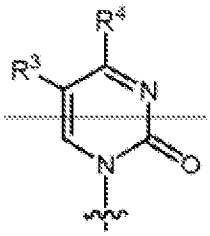
Claim 99 (Withdrawn, Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 9 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I;~~

~~R^3 and R^2 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L- or D-amino acid (or racemic mixture), a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of~~

providing a compound wherein R^1 is H or phosphate; R^2 is H or phosphate, R^1 and R^2 or R^2 can also be linked with cyclic phosphate group;

$R^{2'}$ and $R^{2''}$ are independently H, C_{1-4} alkyl, C_{1-4} alkenyl, C_{1-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optinally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkynyl), $C(O)O(C_{1-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{1-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{1-4}$ alkynyl), $S(C_{1-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{1-4}$ alkynyl), $SO(C_{1-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{1-4}$ alkynyl), $SO_2(C_{1-4}$ alkenyl), $O_3S(C_{1-4}$ acyl), $O_3S(C_{1-4}$ alkyl), $O_3S(C_{1-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{1-4}$ alkenyl), $NH(C_{1-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$, OR^2; $R^{2'}$ and $R^{2''}$ can be linked together to form a vinyl optionally substituted by one or two of N_3, CN, Cl, Br, F, I, NO_2;

R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR^2, SH, SR^2, NH_2, NHR^2, NR^2_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R^2, $CONH_2$, $CONHR^2$, $CONR^2_2$, $CH=CHCO_2H$, $CH=CHCO_2R^2$; and,

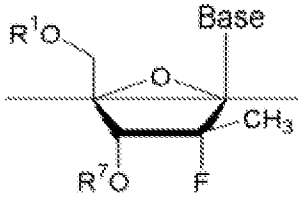
~~R^1 is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl;~~

~~R^6 is an optionally substituted alkyl (including lower alkyl), cyano (CN), CH_3, OCH_3, OCH_2CH_3, hydroxy methyl (CH_2OH), fluoromethyl (CH_2F), azido (N_3), CHCN, CH_2N_3, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH3)_2$, alkyne (optionally substituted), or fluoro;~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

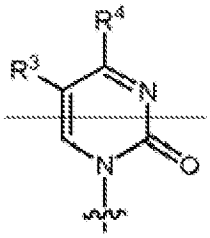
Claim 100 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 10 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) of the formula:~~



~~wherein~~

~~Base is~~



~~R^5 and R^7 are independently H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, H-phosphonate, including stabilized H-phosphonates, acyl, including optionally substituted phenyl and lower acyl, alkyl, including lower alkyl, O-substituted carboxyalkylamino or its peptide derivatives, sulfonate ester, including alkyl or arylalkyl sulfonyl, including methanesulfonyl and benzyl, wherein the phenyl group is optionally substituted, a lipid, including a phospholipid, an L or D-amino acid, a carbohydrate, a peptide, a cholesterol, or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 or R^2 is independently H or phosphate; R^5 and R^7 can also be linked with cyclic phosphate group;~~

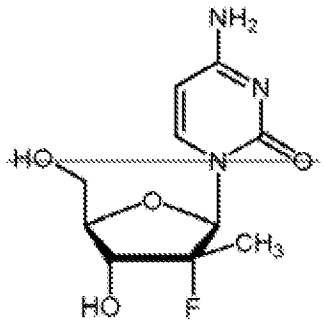
~~R^3 and R^4 are independently H, halogen including F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6 such as CF_3 and CH_2CH_2F, lower alkenyl of C_2-C_6 such as $CH=CH_2$, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 such as CH=CHCl, CH=CHBr and CH=CHI, lower alkynyl of C_2-C_6 such as $C\equiv CH$, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6 such as CH_2OH and CH_2CH_2OH, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, $CH=CHCO_2R'$;~~

~~R' is an optionally substituted alkyl of C_1-C_{12} (particularly when the alkyl is an amino acid residue), cycloalkyl, optionally substituted alkynyl of C_2-C_6, optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl.~~

~~or its pharmaceutically acceptable salt or prodrug thereof, optionally in a pharmaceutically acceptable carrier.~~

Claim 101 (Withdrawn; Currently Amended): A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of the nucleoside of claim 11 or its pharmaceutically acceptable salt or prodrug optionally in a pharmaceutically acceptable carrier.

~~A method for the treatment or prophylaxis of a Dengue virus infection comprising administering to a host an antivirally effective amount of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D) or its pharmaceutically acceptable salt or prodrug thereof of the formula:~~



~~optionally in a pharmaceutically acceptable carrier.~~

Claims 102-105 (Canceled).

Claim 106 (Withdrawn; Currently Amended): The method of 31, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3

inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claim 107 (Withdrawn; Currently Amended): The method of 41, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claims 108-109 (Canceled).

Claim 110 (Withdrawn; Currently Amended): The method of 46, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claim 111 (Withdrawn; Currently Amended): The method of 56, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor;

a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claims 112-113 (Canceled).

Claim 114 (Withdrawn; Currently Amended): The method of 61, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claim 115 (Withdrawn; Currently Amended): The method of 71, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3

inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claims 116-117 (Canceled).

Claim 118 (Withdrawn; Currently Amended): The method of 76, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claim 119 (Withdrawn; Currently Amended): The method of 86, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claims 120-121 (Canceled).

Claim 122 (Withdrawn; Currently Amended): The method of 91, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant

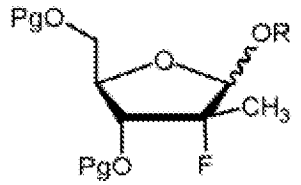
including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claim 123 (Withdrawn; Currently Amended): The method of 101, wherein the antivirally effective amount of ~~(2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl~~ the nucleoside is administered in combination or alternation with at least one treatment selected from the group consisting of: interferon, including interferon alpha 2a, interferon alpha 2b, a pegylated interferon, interferon beta, interferon gamma, interferon tau and interferon omega; an interleukin, including interleukin 10 and interleukin 12; ribavirin; interferon alpha or pegylated interferon alpha in combination with ribavirin or levovirin; levovirin; a protease inhibitor including an NS3 inhibitor, a NS3-4A inhibitor; a helicase inhibitor; a polymerase inhibitor including HCV RNA polymerase and NS5B polymerase inhibitor; gliotoxin; an IRES inhibitor; and antisense oligonucleotide; a thiazolidine derivative; a benzanilide, a ribozyme; another nucleoside, nucleoside prodrug or nucleoside derivative; a 1-amino-alkylcyclohexane; an antioxidant including vitamin E; squalene; amantadine; a bile acid; N-(phosphonoacetyl)-L-aspartic acid; a benzenedicarboxamide; polyadenylic acid; a benzimidazoles; thymosin; a beta tubulin inhibitor; a prophylactic vaccine; an immune modulator, an IMPDH inhibitor; silybin-phosphatidylcholine phytosome; and mycophenolate.

Claims 124-125 (Canceled).

Claim 126 (Withdrawn; Currently Amended): A method of synthesizing the nucleoside of claim 11, which comprises ~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-C-methyl nucleoside (β-D or β-L) comprising glycosylation of a nucleobase with an intermediate~~

glycosylating the pyrimidine with a compound having the following structure:

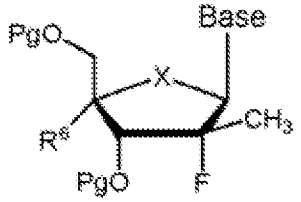


1-4

wherein R is lower alkyl, acyl, benzoyl, or mesyl; and Pg is any acceptable protecting group consisting of but not limited to C(O)-alkyl, C(O)Ph, C(O)aryl, CH_3, CH_2-alkyl, CH_2-alkenyl, CH_2Ph, CH_2-aryl, CH_2O-alkyl, CH_2O-aryl, SO_2-alkyl, SO_2-aryl, *tert*-butyldimethylsilyl, *tert*-butyldiphenylsilyl, or both Pg's may come together to for a 1,3-(1,1,3,3-tetraisopropyldisiloxanylidene).

Claim 127 (Withdrawn; Currently Amended): A method of synthesizing the nucleoside of claim 1, which comprises ~~a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L) comprising selective deprotection of either Pg in an intermediate of the~~

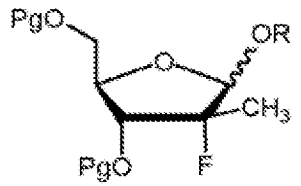
selectively deprotecting the 3'-OPg or the 5'-OPg of a compound having the following structure:



2-5

wherein, ~~X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I; and Pg~~ is independently any pharmaceutically acceptable protecting group selected from the group consisting of C(O)-alkyl, C(O)Ph, C(O)aryl, CH_3, CH_2-alkyl, CH_2-alkenyl, CH_2Ph, CH_2-aryl, CH_2O-alkyl, CH_2O-aryl, SO_2-alkyl, SO_2-aryl, *tert*-butyldimethylsilyl, *tert*-butyldiphenylsilyl, or both Pg's may come together to for a 1,3-(1,1,3,3-tetraisopropyldisiloxanylidene).

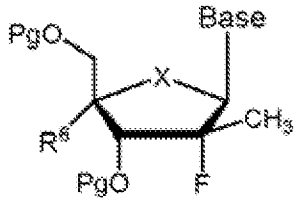
Claim 128 (Withdrawn): An intermediate in the synthesis of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L), wherein the intermediate is of the structure:



1-4

wherein R is lower alkyl, acyl, benzoyl, or mesyl; and Pg is any acceptable protecting group consisting of but not limited to C(O)-alkyl, C(O)Ph, C(O)aryl, CH_3, CH_2-alkyl, CH_2-alkenyl, CH_2Ph, CH_2-aryl, CH_2O-alkyl, CH_2O-aryl, SO_2-alkyl, SO_2-aryl, *tert*-butyldimethylsilyl, *tert*-butyldiphenylsilyl, or both Pg's may come together to for a 1,3-(1,1,3,3-tetraisopropyldisiloxanylidene).

Claim 129 (Withdrawn): An intermediate in the synthesis of a (2'*R*)-2'-deoxy-2'-fluoro-2'-*C*-methyl nucleoside (β-D or β-L), wherein the intermediate is of the structure:



2-5

wherein, X is O, S, CH_2, Se, NH, N-alkyl, CHW (*R*, *S*, or racemic), $C(W)_2$, wherein W is F, Cl, Br, or I; and Pg is independently any pharmaceutically acceptable protecting group selected from the group consisting of C(O)-alkyl, C(O)Ph, C(O)aryl, CH_3, CH_2-alkyl, CH_2-alkenyl, CH_2Ph, CH_2-aryl, CH_2O-alkyl, CH_2O-aryl, SO_2-alkyl, SO_2-aryl, *tert*-butyldimethylsilyl, *tert*-butyldiphenylsilyl, or both Pg's may come together to for a 1,3-(1,1,3,3-tetraisopropyldisiloxanylidene).